

G

Supplemental Land Use Data

Appendix G – Supplemental Land Use Information

Columbia County

Columbia County has defined development requirements for the construction and operation of wind turbines, as promulgated in the Columbia County Commercial Wind Turbine Energy Projects Standards of Development (included in full at the end of this appendix). These standards include conditions which are grouped into the following categories and summarized below:

- Construction – including compliance with the International Building Code and methods to reduce site disturbance, such as using existing roads for construction traffic and locating utility lines in the same corridors;
- Water and Runoff – including compliance with applicable Ecology stormwater regulations and U.S. Army Corps of Engineers permitting requirements and use of stormwater BMPs as recommended by the Eastern Washington Stormwater Manual published by Ecology;
- Erosion – including consultation with a Washington State licensed Professional Engineer during road and turbine foundation construction and regular monitoring for erosion at the site during the first year or until vegetation has become established;
- Transportation – including submission of a transportation plan to the County Engineer prior to the start of construction;
- Vegetation – including submission of a weed management plan outlining revegetation with appropriate seed mixes to the County;
- Wildlife – including wildlife mitigation for Project impacts based on Project pre-assessment studies and wildlife monitoring programs, and use of bird flight detectors on guyed permanent meteorological towers or use of unguyed meteorological towers;
- Recreation – including consultation with Project landowners and WDFW regarding management of local game populations and Project impacts on hunting programs in and around the Project area;
- Historic Cultural Resources – including avoidance of identified cultural resources (see Section 2.18, Cultural Resources) during construction and, if previously unidentified cultural resources are uncovered during construction, ceasing construction in the immediate vicinity of the site pending evaluation by a qualified archaeologist and consultation with the Washington State Department of Archaeology and Historic Preservation, as well as affected Native American tribes;
- Noise and Visual – including use of non-reflective paints on all turbine towers and compliance with the Maximum Environmental Noise Levels defined in WAC 173-60;
- Health and Safety – including development of a health and safety plan;
- Decommissioning – including submission of a decommissioning plan that addresses site-specific conditions to the County prior to the start of operation; and
- Other – including adherence to conditions described in the Columbia County Critical Areas Ordinance (see summary provided in Table A below).

Table A Summary of Columbia County Critical Areas Requirements

Critical Areas	Requirements
Critical Aquifer Recharge Areas	<ul style="list-style-type: none"> • Area of Review: wellhead protection areas; sole source aquifers; susceptible groundwater management areas; special protection areas; and moderately, highly vulnerable, or highly susceptible aquifer recharge areas • Critical Areas Report required • Hydro-geological assessment required • Level 2 hydro-geological assessment required for activities within critical aquifer recharge areas • General performance standards
Fish and Wildlife Habitat Conservation Areas	<ul style="list-style-type: none"> • Area of Review: areas with which state or federally listed endangered, threatened, and sensitive species have a primary association; state priority habitats and areas associated with state priority species; habitats and species of local importance; natural ponds under 20 acres; waters of the state; lakes, ponds, rivers, and streams stocked with game fish by a government or tribal entity; state natural area preserves and natural resource conservation areas; and land essential for wildlife corridors • Critical Areas Report required, to be prepared by a qualified professional biologist • Additional information may be required based on the type of habitat or species present or other project area conditions • Performance standards • Widths of buffers consisting of undisturbed areas of native vegetation determined based on the type and intensity of proposed development • Outer perimeters of habitat conservation areas or buffers will be marked during construction to prevent unauthorized intrusion • A permanent fence around habitat conservation areas or buffers may be required
Frequently Flooded Areas	<ul style="list-style-type: none"> • Area of Review: areas of special flood hazard identified by the Federal Insurance Administration Flood Insurance Study for Columbia County and Incorporated (revised July 19, 2000) or identified by the administrative official • Critical Areas Report required • Disclaimer of liability • General performance standards, including obtaining a development permit for land alteration or new land uses within frequently flooded areas • Watercourse alterations allowed only in accordance with Fish and Wildlife Habitat Conservation Area provisions • General and specific standards for flood hazard reductions
Geologically Hazardous Areas	<ul style="list-style-type: none"> • Area of Review: areas susceptible to erosion, landslide, seismic, or other hazards • Critical Areas Report and geo-technical analysis required • Specific plans required for development in erosion hazard areas: erosion and sediment control plan, drainage plan, mitigation plans, monitoring surface waters • Performance standards for erosion and landslide areas • On-site sewage disposal systems prohibited in erosion and landslide hazard areas and associated buffers
Wetlands	<ul style="list-style-type: none"> • Area of Review: Category I, II, III, and IV wetlands and their buffers as determined by land use intensity • Critical Areas Report required • Identification of proposed mitigation, if applicable • General performance requirements

Table A Summary of Columbia County Critical Areas Requirements

Critical Areas	Requirements
	<ul style="list-style-type: none"> • Installation of temporary or permanent signs along the wetland or buffer boundary may be required • Permanent fencing around wetlands or buffers required in areas used or planned to be used for livestock grazing • General mitigation requirements

Source: Columbia County 2008

Garfield County

Garfield County Zoning Ordinance, Section 1.05.090 Wind Power Generators, Solar and Fuel Cell Energy, includes specific conditions of approval which are summarized below:

- Construction – including compliance with the International Building Code and methods to reduce site disturbance;
- Water and Water Runoff – including implementation of BMPs and compliance with permit requirements;
- Erosion – including incorporation of slope protection measures in the site design and regular monitoring for erosion;
- Transportation – including a road use plan that addresses both construction and post-construction uses;
- Plants – including mitigation for loss of vegetation during construction and development of a weed management plan;
- Animals – including Baseline and Monitoring Studies for Wind Projects and appropriate wildlife mitigation as set forth in the WDFW Wind Power Guidelines;
- Recreation – including consultation with project landowners and WDFW regarding management of big game populations and project impacts on local hunting programs;
- Historic and Cultural Resources – including protection and avoidance of identified cultural resources and consultation procedures in the event that previously unidentified cultural resources are encountered during construction;
- Noise and Visual – including use of non-reflective paints on all turbine towers and compliance with the Maximum Environmental Noise Levels defined in WAC 173-60;
- Health and Safety – including development of an on-site health and safety plan and an Emergency Response Plan, to be developed in coordination with Garfield County emergency service providers;
- Decommissioning – including requirements for removal of project components and submission of a decommissioning plan to the County; and
- Other – including compliance with the Conditional Use Permit and other applicable laws and regulations.

Setbacks and requirements for resource lands are set forth in Sections 7-9 of the CAO. Section 10-14 establishes requirements for designated critical areas. The applicable development standards, setbacks and mitigation ratios for critical areas are summarized in Table B.

Table B Summary of Garfield County Critical Areas Requirements

Critical Areas	Requirements
Wetlands	<ul style="list-style-type: none"> • Regulated activities must be sited, designed, and operated in a manner to protect the value and functions of the wetland • Critical Areas Report required • Area of Review: Within 500 ft. for Category 1 or 2; Within 300 ft. for Category 3; and Within 200 ft. Category 4 Wetlands • Water quality requirements • Guidance for restoration & replacement, enhancement, and signs & fencing of wetlands • Buffers from Edge of Wetland: Category 1 – 200 ft. min; Category 2 – 100 ft. min; Category 3 – 50 ft. min; Category 4 – 25 ft. min
Critical Aquifer Recharge Areas	<ul style="list-style-type: none"> • Area of Review: all subject rivers and creeks within 100 ft. of irrigation district main canals and areas of high ground water. • The building inspector may request additional unconfined and general information • Site Assessment Report required • Water quality requirements • Additional development standards • Guidance for wellhead protection as mitigation
Frequently Flooded Areas	<ul style="list-style-type: none"> • Area of Review: Flash flood areas and areas identified on Federal Emergency Management Agency (FEMA) 100-year flood maps. • General development regulations • Water quality requirements • General and specific standards for flood hazard reductions • Designated floodways with additional prohibitions
Geologically Hazardous Areas	<ul style="list-style-type: none"> • Area of Review: 200 ft. from any identified hazard per geology report • General requirements for site analysis • Identifies areas that shall be addressed in a critical area report. • Geological Hazard Assessment • Development plans and standards required
Fish and Wildlife Conservation Areas	<ul style="list-style-type: none"> • Area of Review: 500 ft. from “edge area” determined by the building inspector based on Washington Department of Fish and Wildlife (WDFW) recommendations, and consultation with the applicant and state agencies. • General requirements for site analysis • Requirements for Habitat Conservation Areas • Development Setbacks for WDNR and non-Typed Streams in protected Fish and Wildlife Conservation Areas; 250 ft buffer width from shorelines, 200 ft. buffer width from perennial or fish bearing streams (5-20ft wide), and 150 ft. buffer width from perennial or fish bearing streams less then 5 feet wide as well as intermittent streams and washes

Source: Garfield County 2008c

COLUMBIA COUNTY COMMERCIAL WIND TURBINE ENERGY PROJECTS STANDARDS OF DEVELOPMENT.

Columbia County has developed standards for the development of Commercial Wind Turbine Energy Projects. Standards are of two types. Code standards adopted by Ordinance 2008-004 amending the Columbia County Zoning Ordinance and Policy standards adopted by Resolution 2008-039.

CODE STANDARDS:

- In addition to any special conditions of approval applied to a Wind Turbine Project Use Permit the following standards shall apply;
- a. Wind Tower projects shall meet Standard Development Requirements adopted by policy by the County Board of Commissioners as required by the project use permit.
 - b. No individual tower shall be located closer than $\frac{1}{4}$ mile to the project boundary encompassing the entire project area (defined as including any property purchased or for which a lease has been entered into for the purpose of placement of wind turbine towers or for which has been purchased or for which a lease has been entered for the purpose of the expansion of the project area) and/or any approved independent phase thereof.
 - c. No individual tower shall be located closer than 1.5 times the height of the tower, measured from the natural surrounding grade to the highest extent of any blade, to any paved County road and from any State Highway.
 - d. No tower shall be located closer than 1.5 miles to any Urban Growth Area Boundary existing at the time of issuance of the project use permit.
 - e. The turbine operator shall upon validation of a complaint regarding noise level violations be responsible for reimbursement of the county for costs incurred for professional noise studies necessary to determine the extent and nature of the violation and possible mitigation measures. The operator shall further be responsible for attenuation of the impacts and costs associated with mitigation measures.

POLICY STANDARDS: see attached

COLUMBIA COUNTY
WIND TURBINE STANDARD DEVELOPMENT REQUIREMENTS
(As per Section 33. Conditional Use Permits, Paragraph F. Wind Turbine Standards, sub-paragraph a.)
Adopted as policy by Resolution #: 2008.039

A. Construction

- A.1 Structural foundations and buildings shall be designed in accordance with the International Building Code in effect in Columbia County on the date of application for a Conditional Use Permit.
- A.2 When reasonable and practical, Applicant shall locate roads, power lines, and communication lines in the same corridors, thereby reducing the overall amount of site disturbance.
- A.3 Property used for temporary roads and staging areas shall be restored to pre-construction grades, stabilized and/or revegetated as necessary.
- A.4 Existing roads shall be used within a Project wherever reasonable and practical.
- A.5 Applicant shall provide a minimum of 15-cm (6 inches) crushed gravel surface on Project roads to reduce erosion.
- A.6 Applicant shall implement Best Management Practices (BMPs) to minimize fugitive dust during construction, including measures such as maintaining a water truck on site during construction for dust suppression.
- A.7 Applicant shall conduct on-going environmental monitoring during construction for environmental conditions identified during SEPA review and incorporated by reference as conditions of approval.

B. Water and Runoff

- B.1 Applicant shall comply with Washington State Department of Ecology (WADOE) stormwater regulations, as well as, U.S. Army Corp of Engineers (USACE) permitting requirements, if any.
- B.2 Construction plans shall incorporate BMP's related to stormwater management and control, as recommended by the Eastern Washington Stormwater Manual published by the WADOE.
- B.3 Design of stormwater drainage systems shall be done by a qualified Professional Engineer licensed by the State of Washington. A Professional Engineer shall also be in responsible charge of the construction of stormwater systems. Monitoring, maintenance and repair of stormwater systems shall be performed in accordance with the requirements of the issuing agency.
- B.4 New or expanded ditches and culverts shall be sized to accommodate a 100-year storm. Expanded culverts over existing seasonal drainages and associated mitigation as required by Washington Department of Fish and Wildlife (WDFW), the USACE and other county, state, and Federal agencies shall be designed to minimize impacts on wildlife.

C. Erosion

- C.1 Road and turbine foundations and cut slopes shall be designed in consultation with a Washington State licensed Professional Engineer to ensure that appropriate slope

protection measures are incorporated into the design and that appropriate materials are used in road construction.

- C.2 During the first year after construction and/or until vegetation has been established in soils disturbed during construction, Applicant shall monitor the site for erosion on a regular basis and after large rainfall or snowmelt events, and take corrective action as necessary.

D. Transportation

D.1 The applicant shall submit a transportation plan to the County Engineer prior to commencement of construction activities on the Project area. The plan shall be prepared in consultation with the County Engineer/Public Works Department for Columbia County roads and the Washington State Department of Transportation, to the extent that state roads are affected, and will include the following items:

- a. Identification of the site access plan, which directs construction and maintenance workers to use existing roads wherever possible;
- b. Identification of transportation routes for equipment deliveries to and from the project site;
- c. Identification of all governmental permits and approvals that must be obtained, including access and driveway permits to state and/or county roads, overweight/oversize load permits, and State of Washington traffic control approvals;
- d. Identification of the means by which public roadway conditions will be assessed pre- and post-construction for purposes of identifying necessary restorative road measures, and the mechanism by which any such repairs to affected roads will be secured, including without limit a bond to secure performance of restorative road measures.

E. Vegetation

- E.1 The County shall reference the Washington State Department of Fish and Wildlife Wind Power Guidelines, as amended, to establish appropriate vegetation mitigation for Project-specific impacts.
- E.2 The Applicant shall submit to the County, prior to completion of project construction, a weed management plan inclusive of reseeding/restoration with appropriate seed mixes, that is prepared in consultation with the Columbia County Weed Board and the Washington State Department of Fish and Wildlife.

F. Wildlife

- F.1 The County shall reference the Washington State Department of Fish and Wildlife Wind Power Guidelines, as amended, to establish appropriate wildlife mitigation for Project-specific impacts, including project pre-assessment studies and wildlife monitoring programs.

F.2 The County shall require use of bird flight deflectors on guyed permanent meteorological towers or use of unguyed meteorological towers.

G. Recreation

G.1 The Applicant will consult with Project landowners and WDFW regarding management of game populations and Project impacts on existing and proposed hunting programs in and around the Project area.

G.2 Project Operations and Maintenance personnel will receive training from WDFW on permissible hunting practices and WDFW communications protocols.

H. Historic and Cultural Resources

H.1 The applicant shall monitor construction activities to ensure that historic/cultural properties identified in the Project cultural resources study prepared in support of the project's State Environmental Policy Act review are protected and avoided.

H.2 If previously unidentified cultural resources are encountered during construction, the applicant shall cease construction activities in the immediate vicinity of the site pending evaluation by a qualified archaeologist and in consultation with the Washington State Department of Archaeology and Historic Preservation and affected Native American tribes in order to identify appropriate mitigation measures.

I. Noise and Visual

I.1 Non-reflective paints shall be used on all turbine towers to reduce glare.

I.2 Lighting for security shall be minimized and non-turbine tower lighting fixtures on the Project shall be directed away from adjacent properties.

I.3 Turbines and other Project improvements shall comply with FAA regulations, including lighting requirements addressing light synchronization, color and number.

I.4 Project sound levels shall not exceed the Maximum Environmental Noise Levels found in WAC 173-60.

I.5 The Project operator will provide notice to the County Planning Department of any noise complaints received, and likewise, the County Planning Department will provide notice to Project operator of any noise complaints received.

I.6 Complaints of exceedance of state noise standards shall be received and reviewed by the County Planning Department in consultation with the Project operator to assess the need, if any, for additional monitoring and address violations, if any, found to have occurred.

I.7 If a violation of a state noise standard is determined to have occurred the turbine operator shall be responsible for (1) reimbursement of costs incurred by the County for professional noise studies necessary to determine the extent and nature of the violations and possible mitigation measures; and (2) attenuation of the impacts and costs associated with mitigation measures.

J. Health and Safety

- J.1 Prior to construction, Applicant shall develop and maintain, on site, a health and safety plan that:
 - a. informs employees and others on-site what to do in case of emergencies;
 - b. includes the locations of fire extinguishers and nearby hospitals;
 - c. provides telephone numbers for emergency responders; and
 - d. describes basic first aid techniques.
- J.2 Applicant shall provide training to all employees on health and safety emergencies, and shall train all operations and maintenance personnel on how to safely operate and maintain the turbines and other mechanical equipment on site.
- J.3 Prior to commencement of construction, the Applicant shall prepare an Emergency Response Plan in coordination with local emergency service providers.
- J.4 During construction and all Project welding operations, the Applicant shall have a readily accessible water truck and chemical fire suppression materials on site to allow immediate fire response
- J.5 Applicant shall take all reasonable measures to mitigate high fire-risk activities during extremely dry weather periods.
- J.6 All employees on site shall be provided with cellular phones to enable timely communication with the local fire department and other emergency service providers.
- J.7 Portable sanitation facilities and potable shall be provided for employees on site during construction and permanent sanitation facilities and potable water shall be provided for Project operations, which facilities shall be developed in compliance with local and state requirements regulating potable water use and sanitary hygiene.
- J.8 Smoking shall be prohibited at all times on the Project area except in designated smoking areas.
- J.9 Signs shall be posted on site warning of dangerous construction activities and indicating emergency service provider phone numbers.
- J.10 Applicant shall monitor the site for evidence of unauthorized use and will provide site security as appropriate.

K. Decommissioning

- K.1 Upon termination of operations or if the Project is abandoned or ceases operation for more than 270 consecutive days (except in the event of man-made or natural disaster not in the control of the Applicant) the Applicant shall, at its sole cost and expense, dismantle and remove above ground improvements including wind turbines, step-up transformers, substations, overhead transmission lines and support structures, control hardware and meteorological masts. At the request of the Landowner, it shall also remove O&M buildings. Footings and foundations will be removed to a level of three (3) feet below the surface of the ground. The Applicant shall repair any damage resulting from such removal, restore the

property to grade and implement erosion and control devices and procedures, restoring the site as reasonably as possible to its pre-Project condition.

- K.2 Prior to commercial operations, the Applicant shall submit a decommissioning plan to the County that takes into consideration the site-specific conditions affecting the cost of decommissioning, including without limit site access, foundation depth, and terrain. The cost of such decommissioning in Year 25 of commercial operations of the Project, reduced to present value, shall be included in the decommissioning plan, and shall include a credit for salvage value. Within one year of the start of commercial operations, the Applicant shall provide the County with, and maintain for the duration of the commercial operations of the Project, any one, or a combination of, if appropriate, trust fund, surety bond, letter of credit, insurance, corporate guarantee, or an alternative security device or financial test deemed acceptable by the County in the amount established as necessary to secure decommissioning, adjusted for inflation. If, however, the Project is owned and operated by an investor-owned electric utility regulated by the Washington Utility and Transportation Commission, such security device as described in this condition shall be waived and the removal and restoration obligations hereunder shall be a general obligation of the investor-owned utility.

L. Other

- L.1 All conditions enumerated in the Project's Mitigated Determination of Non-Significance (MDNS) under the State Environmental Policy Act shall be deemed project permit conditions.
- L.2 The Project shall comply with the Columbia County Critical Areas Ordinance.
- L.3 Applicant shall conduct turbine inspections in accordance with manufacturer's specifications in order to detect for leakage of hydraulic or lubricating fluids, and shall take appropriate action to contain leaks and remediate any materials coming into contact with the environment.
- L.4 Applicant shall, during operations of the Project, provide a clean facility free of debris and unused or inoperable equipment by either repairing such equipment or storing the same in designated on site areas or removing the items from the site.
- L.5 Applicant will construct and operate the Project with regard for RCW 7.48.300 related to protection of agricultural and forest practices lands from nuisance lawsuits.
- L.6 The Applicant shall consider "Local Preference" in its utilization of services, labor, contractors, subcontractors and vendors during Project preparation, construction and operation activities. Local preference will be given consideration to qualified candidates in the following order of priority: (1) to those services, labor, contractors, subcontractors and vendors headquartered or residing within Columbia County as of the date of the Conditional Use Application; (2) to those headquartered or residing within Washington counties immediately adjacent to Columbia County; (3) to those headquartered or residing within the State of Washington; and (4) to those headquartered or residing outside the state of Washington. Notwithstanding this Local Preference provision, the Applicant retains final and absolute discretion to utilize the best qualified vendors, service

providers and subcontractors to safely construct the Project in conformance of all Conditions of Approval.

- L.7 The conditions attached to a wind energy conditional use permit through application of this chapter are applicable to the permit itself; all assigns and transferees of Applicant's interest thereunder take the Project permit subject to all its conditions.

** Optional language added by staff at the direction of the Planning Commission at meeting of September 22, 2008.*